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Attorney Docket # 183-12 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Willem Johannes Van Straaten
Serial No.: 10/613,037
Filed: July 2, 2003
For: EXERCISE MACHINE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUBMISSION OF CERTIFIED PRIORITY DOCUMENT

Applicant encloses a copy of the Certified Priority Document for the above-identified application. The priority document consists of South African Patent Application No. 2002-2133 filed July 3, 2002 as claimed in the Declaration.

Respectfully submitted,
KEUSEY,TUTUNJIAN & BITETTO P.C.

By
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Dated: November 18, 2003

CERTIFICATE OF MAILING

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on November 18, 2003.

Attorney: John G. Tutunjian

Sertifikaat
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DEPARTEMENT VAN
HANDEL EN NYWERHEID

Certificate
PATENT OFFICE
REPUBLIEK VAN SUID-AFRIKA

DEPARTMENT OF TRADE
AND INDUSTRY

Hiermee word gesertifiseer dat
This is to certify that

the documents annexed hereto are true copies of:

Application forms P.1 and P.2, provisional specification and drawings of South African Patent Application No. 2002/2133 as originally filed in the Republic of South Africa on 15 March 2002 and post-dated to 3 July 2002 in the name of VAN STRAATEN, Willem Johannes for an invention entitled : " EXERCISE APPARATUS".

Geteken te PRETORIA in die Republiek van Suid-Afrika, hierdie **24th** dag van **July 2003**
Signed at PRETORIA in the Republic of South Africa, this **24th** day of **July 2003**

DIDISHE

Registrateur van Patente
Registrar of Patents

FORM P2
M R & F Ref: P.19535

REPUBLIC OF SOUTH AFRICA — 3 July 2008 — PATENTS ACT, 1978

REGISTRAR OF PATENTS

Official Application No.	Lodging date: Provisional	Acceptance date:
21 01 2002/2133	22 ~~15 MARCH 2002~~ Post dated 18 June 2002	47
International classification	Lodging date: Complete	Granted date:
51	23	

Full name(s) of applicant(s)/Patentee(s)

71 WILLEM JOHANNES VAN STRAATEN

Applicant(s) substituted:	Date Registered:
71	

Assignee(s):	Date Registered:
71	

Full name(s) of inventor(s)

72 WILLEM JOHANNES VAN STRAATEN

Priority claimed	Country		Number		Date	
Note:	33	NONE	31	NONE	32	NONE
Use International	33		31		32	
Abbreviation for Country	33		31		32	

Title of Invention:

54 EXERCISE APPARATUS

Address of applicant(s)/patentee(s)

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Address for Service:

74 **McCALLUM, RADEMEYER & FREIMOND, Maclyn House, June Avenue, Bordeaux, Randburg • P.O. Box 1130, Randburg 2125**

Patent of Addition No.	Date of any change:	
61		
Fresh Application based on:	Date of any change:	

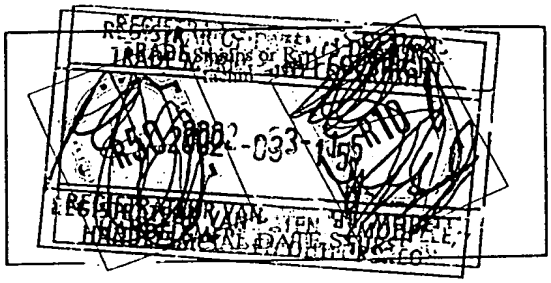
McCALLUM, RADEMEYER & FREIMOND
Ref: P19535

FORM P1

REPUBLIC OF SOUTH AFRICA
PATENTS ACT, 1978

APPLICATION FOR A PATENT AND ACKNOWLEDGEMENT OF RECEIPT

(Section 30(1) - Regulation 22)



The grant of a patent is hereby requested by the undermentioned applicant on the basis of the present application filed in duplicate

OFFICIAL APPLICATION NO.

21	01	: 2002/2133

FULL NAME(S) OF APPLICANT(S)

71	WILLEM JOHANNES VAN STRAATEN

ADDRESS(ES) OF APPLICANT(S)

130 Trafalgar Street, Sandhurst

TITLE OF INVENTION

54	EXERCISE APPARATUS

Priority is claimed as set out on the accompanying Form P2.
The earliest priority claimed is :

This application is a patent of addition to Patent Application No.	21	01	
This application is a fresh application in terms of section 37 and based on Application No.	21	01	

THIS APPLICATION IS ACCOMPANIED BY:

X	1	A single copy of a provisional specification of 8 pages
	2	Two copies of a complete specification of ..... pages
X	3	1 sheet of Informal Drawings
	4	..... sheets of Formal Drawings
	5	Publication particulars and abstract (Form P8 in duplicate)
	6	A copy of Figure ..... of drawings (if any) for the abstract
	7	Assignment of Invention
	8	Certified priority document(s) Number(s)
	9	Translation of priority document(s)
	10	An assignment of priority rights
	11	A copy of the Form P2 and the specification of SA Patent Application No. 21 01
X	12	A declaration and power of attorney on Form P3
	13	Request for ante-dating on Form P4
	14	Request for classification on Form P9
X	15	Form P2 in duplicate

74	ADDRESS FOR SERVICE: McCALLUM, RADEMEYER & FREIMOND, Maclyn House, June Avenue, Bordeaux P.O. Box 1130, Randburg, 2125

Dated this 15th day of March 2002.

.....
McCALLUM, RADEMEYER & FREIMOND
PATENT AGENTS FOR APPLICANT(S)

REGISTRAR OF PATENTS, DESIGNS, TRADE MARKS AND COPYRIGHT
Date Stamp
Post dated
2002-03-15 3 JUN 2002
18 June 2002
REGISTRATEUR VAN PATENTE, MODELLE, HANDELSMERKE EN OUTEURSREG
REGISTRAR OF PATENTS

McCALLUM, RADEMEYER & FREIMOND
P.19535

FORM P6

REPUBLIC OF SOUTH AFRICA
PATENTS ACT, 1978

PROVISIONAL SPECIFICATION

(Section 30(1) - Regulation 27)

OFFICIAL APPLICATION NO		LODGING DATE	
21	01 2002/2133	22	Post dated 15 ~~MARCH~~ 2002 ~~18 June 2002~~ 3 JULY 2002

FULL NAME(S) OF APPLICANT(S)

71	WILLEM JOHANNES VAN STRAATEN

FULL NAME(S) OF INVENTOR(S)

72	WILLEM JOHANNES VAN STRAATEN

TITLE OF INVENTION

54	EXERCISE APPARATUS

BACKGROUND OF THE INVENTION

This invention relates to exercise apparatus.

SUMMARY OF THE INVENTION

The invention provides exercise apparatus which includes a load resisting member which is mounted for rotation about a first axis, at least one handle which is mounted for rotation about a second axis, and a drive mechanism for translating rotational movement of the handle into rotational movement of the load resisting member.

The first axis may be horizontal but preferably is vertical.

The second axis may be vertical but preferably is horizontal.

The second axis may be spaced from the ground.

The exercise apparatus may include a unidirectional drive device between the handle and the load resisting member. Thus the handle can be used to rotate the load resisting member but the load resisting member cannot impart rotational movement to the handle.

The unidirectional drive device may be in the nature of a ratchet device but any equivalent arrangement can be used. The invention is not limited in this regard.

The handle may be rotatable in a circle which is centred on the second axis. The diameter of the circle may be variable i.e. the distance between the second axis and the handle may be adjustable according to requirement, at least within limits.

The exercise apparatus may include two of the handles which are spaced apart, one handle being adapted to be gripped in the left hand of a user and the other handle being adapted to be gripped in the right hand of a user.

The handles may be linked to be rotatable in unison or they may be separately rotatable. The angular operation of one handle relatively to the other handle may be variable.

The handles may be adapted to impart rotational movement to the load resisting member through a single unidirectional drive device or, alternatively, the apparatus may include two unidirectional drive devices with one unidirectional drive device being associated with one handle and the other unidirectional drive device being associated with the other handle.

The load resisting member may take on any appropriate form but preferably is in the nature of a flywheel.

Rotational movement of the load resisting member may be resisted by means of a brake which may be in the nature of a belt brake, a friction brake, an electromagnetic brake or any equivalent component. The invention is not limited in this regard.

The drive mechanism may include a belt and pulley arrangement, a gear train e.g. bevelled gear or gears driving one or more shafts or similar transmission members, a chain drive, a cable drive, or any equivalent arrangement.

The load resisting member may be positioned close to the ground and may be covered, at least partially, by a cover. The cover may be designed so that it provides an area upon which a user of the exercise apparatus can stand.

BRIEF DESCRIPTION OF THE DRAWING

The invention is further described by way of example with reference to the accompanying drawing which illustrates from the side and somewhat schematically exercise apparatus according to one form of the invention.

DESCRIPTION OF PREFERRED EMBODIMENT

The accompanying drawing illustrates from the side and somewhat schematically exercise apparatus 10 according to the invention.

The apparatus 10 includes a base plate 12 to which are mounted two spaced and upwardly extending support columns 14 and 16 respectively.

The column 14 includes a drive shaft 18 which is mounted, near opposed ends, to bearings 20 and 22 respectively. A relatively large drive pulley 24 is fixed to the drive shaft slightly above the bearing 20.

A bevel gear 26 which, in this example, is made from a suitable plastics material, is fixed to an upper end of the drive shaft.

A cranked member 28 which includes a stub axle 30, a lever 32 and a handle 34, is fixed to an upper end of the support column 14. The stub axle extends horizontally and is mounted to bearings 36 and 38. A bevel gear 40, which mates with the gear 26, is fixed to the axle. At a position between the bevel gear 40 and the bearing 38 a one-way drive mechanism in the nature of a ratchet 42 is installed. The arrangement is such that rotational drive can be transferred from the lever 32 to the gear 40, in one direction, but not in the opposing direction.

The handle 34 is adjustable along the length of the lever 32 to a desired position as is indicated by means of dotted lines 34X. Alternatively or additionally the lever 32 can be adjusted relatively to the stub axle 30 as is indicated by means of a double headed arrow 32X.

The support column 16 has structure similar to that associated with the column 14 engaged with it. Consequently where applicable components on the right hand side of the drawing which are similar to components on the left hand side of the drawing bear like reference numerals with the suffix "A".

A thrust bearing 50 is mounted to the base plate at a central location between the columns 14 and 16. An axle 52 extends upwardly from the thrust bearing and a flywheel 54 is mounted to the axle, bearing on the thrust bearing. At its upper end the axle 52 is supported by means of a bearing 56.

Two pulleys 58 and 60 are mounted to the axle above the upper surface of the flywheel and below the bearing 56. A belt 62 couples the drive pulley 24 to the pulley 58 and a similar belt 62A couples the drive pulley 24A to the pulley 60.

A brake 66 is engaged with the flywheel 54. The brake is adjustable to constrain rotational movement of the flywheel 54 about the axle 56 to a greater or lesser extent. In this example the brake is a magnetic device of a kind which is known in the art. Any other type of brake could be employed for example a belt which is engaged with the flywheel, a friction roller which bears on a rim of the flywheel or the like. The invention is not limited in this regard.

A cover 70 overlies the flywheel and the pulleys 24 and 24A and provides a platform upon which a user, not shown, can stand while using the exercise apparatus.

The exercise apparatus can be used in different ways. In one form of use both handles or both crank members 28 and 28A are brought to similar positions and a user, who stands on the cover 70, grips the handle 34 with one hand and the handle 34A with the other hand. The height of the stub axles 30 and 30A, and the lengths of the levers 32 and 32A are such that as the user rotates the levers, about their respective axles, the user must of necessity bend at the knees and then rise while simultaneously moving the arms from a lower position to an upper position. As the lever 32 is rotated rotational drive is transferred to the drive shaft 18 and drive is imparted via the drive pulley 20 and the belt 62 to the driven

pulley 58. A similar process takes place in respect of the lever 32A. The flywheel is thereby caused to rotate against the braking effect exerted by the magnetic brake 66. This brake can be adjusted to provide more or less resistance, according to requirement, to the rotational movement of the flywheel.

It is important to note that the exercise apparatus causes the user to exercise at least his legs, his arms and his upper torso while rotating the handles.

In a variation of the invention one of the columns, say the column 16, is moved to one side and the user, standing on the platform 70, then grips the handle 34 with both hands. In this instance the user will face the column 14 as opposed to facing in a direction which is at right angles to a line between the columns, as is the case in the former mode of use. The user rotates the handle 34 using both hands, again with a squatting and lifting type of body action.

In the first mentioned mode of operation it is envisaged that, normally, the user rotates the handles 34 and 34A in unison. This need not necessarily be the case for the relative positions of the handles can be adjusted so that, for example, one handle is uppermost when the other handle is lowermost, and vice versa. This is possible if separate ratchet devices 42 and 42A respectively are used on the handles. In a different arrangement a single ratchet device is positioned on the axle 52 above the flywheel 54 and below the pulleys 58 and 60. The ratchets 42 and 42A are then dispensed with. In this arrangement the crank mechanisms 28 and 28A have a fixed orientation relatively to each other.

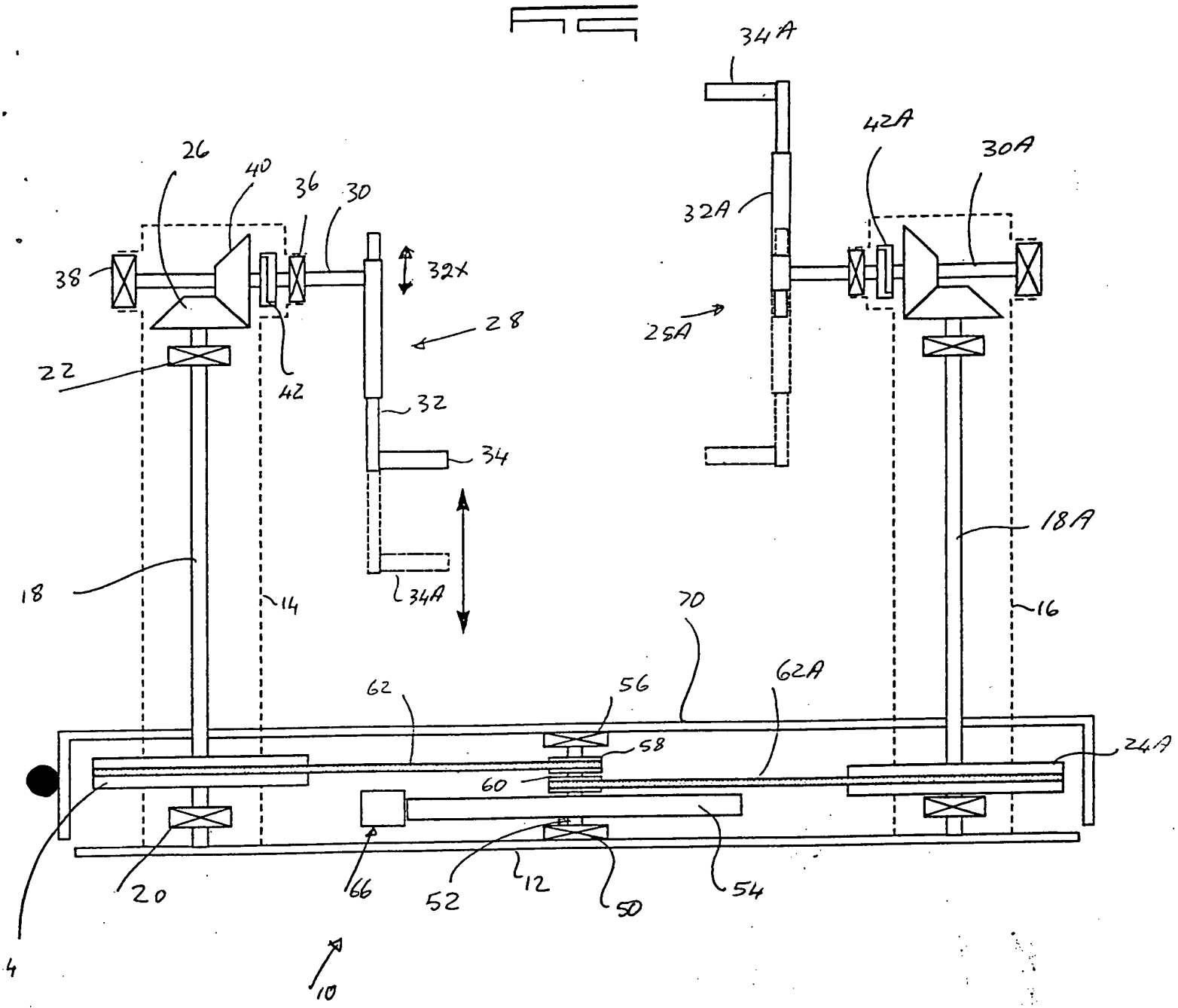
It is evident that the function of the ratchets is to prevent the flywheel 54 from rotating the crank mechanisms. This is an important feature if the user should decide to stop rotating the handles e.g. if the user becomes tired.

DATED this 15th day of March 2002.

McCALLUM RADEMEYER & FREIMOND
Patent Agents for the Applicant

P.19535/jes

:2002/2133



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